

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Manne Garvin Examiner #: 76689 Date: 3/27/01
 Art Unit: 1627 Phone Number 308-005 Serial Number: 08/884573
 Mail Box and Bldg/Room Location: 3201 Results Format Preferred (circle): PAPER DISK E-MAIL
 Office: 3D11

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____
 Inventors (please provide full names): See attached

Earliest Priority Filing Date: 6/1/99
 For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search structures of attached claim 33 in all patent & non-patent databases.

Point of Contact:
 Mary Hale
 Technical Info. Specialist
 CM1 12D16 Tel: 308-4258

Note - novelty denoted "T" is crucial
 Please provide all hits, if possible.

Thank you!
 1412
 1221

380.61
 29.00
 67.07

STAFF USE ONLY

Searcher: <u>1627</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>380.61</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>11</u>	Questel/Orbit _____
Date Completed: <u>4/9</u>	Bibliographic _____	Dr. Link _____
Searcher Prep & Review Time: <u>121</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: <u>1/07</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

PTO-1590 (1-2000)

BEST AVAILABLE COPY

Garcia
884873

CA SUBSCRIBER PRICE

ENTRY
-11.76

SESSION
-11.76

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STRUCTURE FILE UPDATES: 4 APR 2001 HIGHEST RN 330150-69-1
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TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

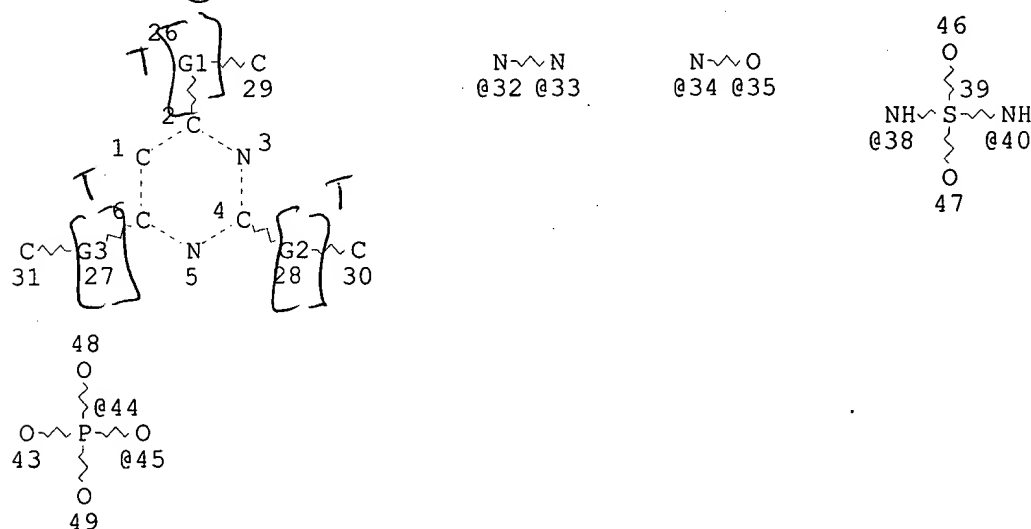
Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT
for details.

=> d 116 que stat;s 116 or 116;d 9000 18000 reg

L14

(I) STR



T= VAR G1=32-2 33-29/34-2 35-29/38-2 40-29/N/O/S/SE/44-2 45-29
T= VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30
T= VAR G3=32-6 33-31/34-6 35-31/38-6 40-31/44-6 45-31/N/O/S/SE

NODE ATTRIBUTES:

NSPEC IS RC AT 29
NSPEC IS RC AT 30
NSPEC IS RC AT 31
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 26

Prepared by M. Hale 308-4258

Page 234

STEREO ATTRIBUTES: NONE

L16 18388 SEA FILE=REGISTRY SSS FUL L14

100.0% PROCESSED 65653 ITERATIONS
SEARCH TIME: 00.00.12

18388 ANSWERS

L23 18388 L16 OR L16

9000 RN 147113-41-5 REGISTRY
18000 RN 39069-69-7 REGISTRY

=> s 123 range=(147113-41-5,)

L24 9000 L16 OR L16

=> s 123 range=(38069-69-7,147113-41-5)

L25 9028 L16 OR L16

=> del 125 y;s 123 range=(39069-69-7,147113-41-5)

L25 9001 L16 OR L16

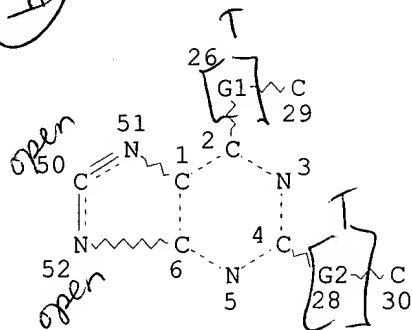
=> s 123 range=(,39069-69-7)

L26 389 L16 OR L16

=> d 119 que stat;d 122 que stat;fil medl,caplus,biosis,embase;s (124 or 125)
and 119 and 122

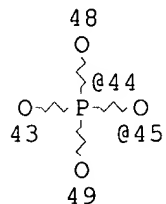
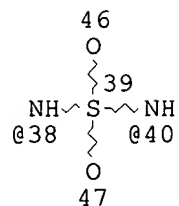
L17 STR

II



N~N
@32 @33

N~O
@34 @35



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T- VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30

NODE ATTRIBUTES:

NSPEC IS RC AT 29
NSPEC IS RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 27

STEREO ATTRIBUTES: NONE

L19 4933 SEA FILE=REGISTRY SSS FUL L17

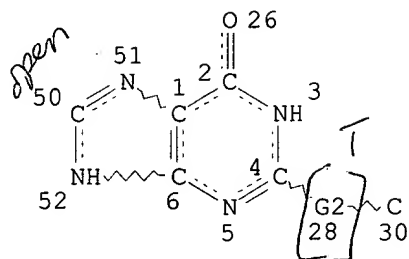
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4933 ANSWERS

L20

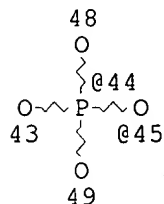
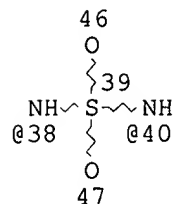
STR

III



N~N
@32 @33

N~O
@34 @35



VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30
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NSPEC IS RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE
L22 307 SEA FILE=REGISTRY SSS FUL L20

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SEARCH TIME: 00.00.11

307 ANSWERS

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-11.76

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SEARCH ENDED BY USER

=> s (l24 or l25) and l19 and l22

L27 0 FILE MEDLINE
L28 1 FILE CAPLUS
L29 0 FILE BIOSIS
L30 0 FILE EMBASE

TOTAL FOR ALL FILES

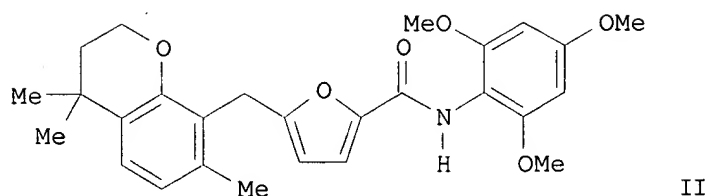
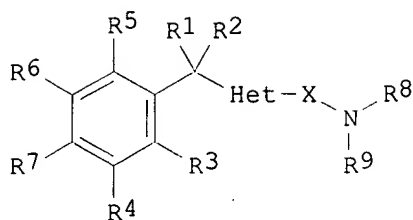
L31 1 (L24 OR L25) AND L19 AND L22

=> d cbib abs hitstr

L31 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS

2000:241135 Document No. 132:279106 Non-peptide GnRH agents, methods and intermediates for their preparation. Anderson, Mark Brian; Vazir, Haresh N.; Luthin, David Robert; Paderes, Genevieve Deguzman; Pathak, Ved P.; Christie, Lance Christopher; Hong, Yufeng; Tompkins, Eileen Valenzuela; Li, Haitao; Faust, James (Agouron Pharmaceuticals, Inc., USA; et al.). PCT Int. Appl. WO 2000020358 A2 20000413, 444 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-US18790 19990820. PRIORITY: US 1998-97520 19980820.

GI



AB Non-peptide GnRH agents capable of inhibiting the effect of gonadotropin-releasing hormone are described. The compds. and their pharmaceutically acceptable salts, multimers, prodrugs, and active metabolites are suitable for treating mammalian reproductive disorders and steroid hormone-dependent tumors as well as for regulating fertility, where suppression of gonadotropin release is indicated. The compds. include those of formula I [X = C:O, C:S, S:O, or SO₂; Het = 5-membered NOS-heterocycle; R₁, R₂ = H, alkyl; R₃-R₇ = H, halo, (un)substituted alkyl, aryl, heteroaryl, CH₂OR, OR, CO₂R; R = alkyl, aryl, etc.; adjacent rings positions such as R₆R₇ may form (un)substituted 5- or 6-membered ring with up to 4 heteroatoms; R₈ = lipophilic moiety such as alkyl, aryl, CH₂OR, OR, etc.; R₉ = H, (un)substituted alkyl]. Methods and intermediates for synthesizing the compds. are also described. For instance, 4,4,7-trimethylchroman (prepn. given) was alkylated in the 6- and 8-positions using Et 5-(chloromethyl)-2-furoate (46% total yield), and the resulting esters were hydrolyzed to a mixt. of acids. This unsepd. mixt. was treated with SOCl₂ and amidated with 2,4,6-trimethoxyphenylamine-HCl to give the invention compd. II and its chroman-6-position isomer, which were sepd. by HPLC. Several compds. exhibited high affinity (<100 nM) at human GnRH receptors. The compds. antagonized GnRH-stimulated inositol phosphate accumulation in cells with recombinant human GnRH receptors, and an example compd. reduced plasma LH levels in castrated male rats. Various biol. data for several hundred compds. are given.

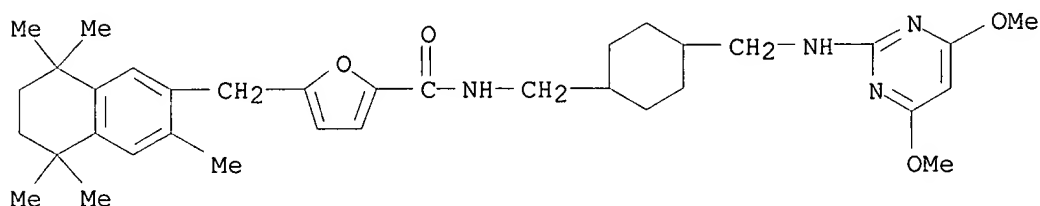
IT 263848-23-3P 263851-39-4P 263857-23-4P 263857-27-8P

RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

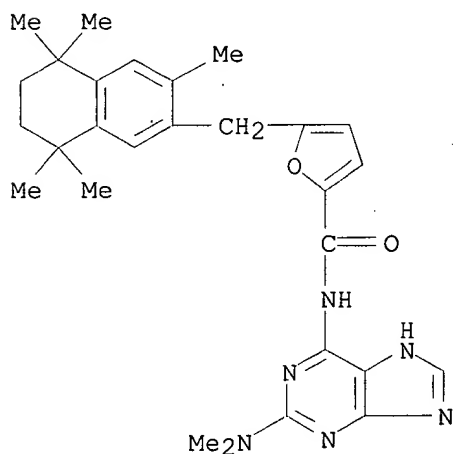
(target compd.; prepn. of non-peptide GnRH agents for regulating

Page 239

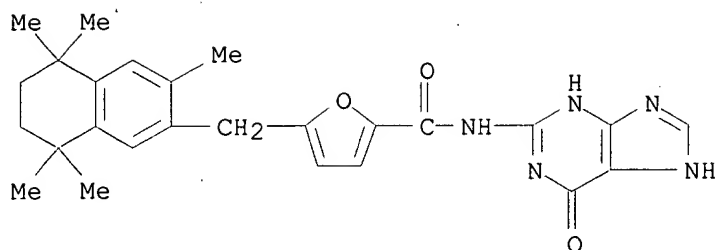
gonadotropin secretion)
 RN 263848-23-3 CAPLUS
 CN 2-Furancarboxamide,
 N-[[4-[[[(4,6-dimethoxy-2-pyrimidinyl)amino]methyl]cyclohexyl)methyl]-5-[(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)methyl]- (9CI) (CA INDEX NAME)



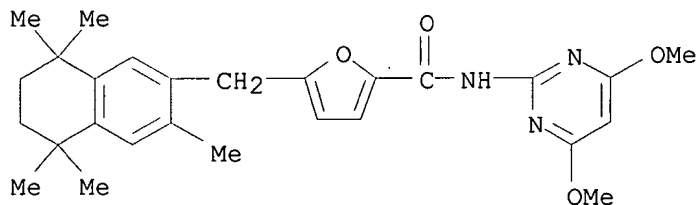
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 CN 2-Furancarboxamide, N-[2-(dimethylamino)-1H-purin-6-yl]-5-[(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)methyl]- (9CI) (CA INDEX NAME)



RN 263857-23-4 CAPLUS
 CN 2-Furancarboxamide, N-(6,7-dihydro-6-oxo-1H-purin-2-yl)-5-[(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)methyl]- (9CI) (CA INDEX NAME)



RN 263857-27-8 CAPLUS
 CN 2-Furancarboxamide,
 N-(4,6-dimethoxy-2-pyrimidinyl)-5-[(5,6,7,8-tetrahydro-
 3,5,5,8,8-pentamethyl-2-naphthalenyl)methyl]- (9CI) (CA INDEX NAME)



=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1401.60	3051.25
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.59	-12.35

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TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

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 for details.

=> e malonato/cn 5

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Page 241

E1 1 MALONATE-TRANSPORTING PROTEIN (PSEUDOMONAS PUTIDA GENE
MDCL) /CN
E2 1 MALONATE-TRANSPORTING PROTEIN (PSEUDOMONAS PUTIDA GENE
MDCM) /CN
E3 0 --> MALONATO/CN
E4 1 MALONATO 1,2-DIAMINOCYCLOHEXANE PLATINUM(II)/CN
E5 1 MALONATO O-PHENYLENEDIAMINE PLATINUM(II)/CN

=> dis his

(FILE 'HOME' ENTERED AT 13:30:50 ON 06 APR 2001)

FILE 'REGISTRY' ENTERED AT 13:31:06 ON 06 APR 2001

L1 STR
L2 50 S L1
L3 17170 S L1 FUL
L4 17170 S L3 OR L3
L5 9000 S L4 RAN=(135867-73-1,)
L6 8171 S L4 RAN=(,135867-73-1)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE' ENTERED AT 13:34:08 ON 06 APR 2001

L7 0 FILE MEDLINE
L8 20 FILE CAPLUS
L9 0 FILE BIOSIS
L10 0 FILE EMBASE
L11 TOTAL FOR ALL FILES
L11 20 S (L5 OR L6) (L) (MIXT OR MIX?)

FILE 'REGISTRY' ENTERED AT 13:39:50 ON 06 APR 2001

L12 STR L1
L13 50 S L12
L14 STR L12\
L15 50 S L14
L16 18388 S L14 FUL
L17 STR L14
L18 50 S L17
L19 4933 S L17 FUL
L20 STR L17
L21 19 S L20
L22 307 S L20 FUL
L23 18388 S L16 OR L16
L24 9000 S L23 RAN=(147113-41-5,)
L25 9001 S L23 RAN=(39069-69-7,147113-41-5)
L26 389 S L23 RAN=(,39069-69-7)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE' ENTERED AT 13:53:05 ON 06 APR 2001

L27 0 FILE MEDLINE
L28 1 FILE CAPLUS
L29 0 FILE BIOSIS
L30 0 FILE EMBASE
L31 TOTAL FOR ALL FILES
L31 1 S (L24 OR L25) AND L19 AND L22

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Page 242

FILE 'REGISTRY' ENTERED AT 13:57:06 ON 06 APR 2001

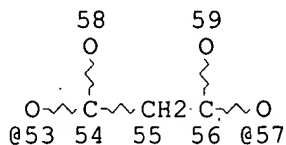
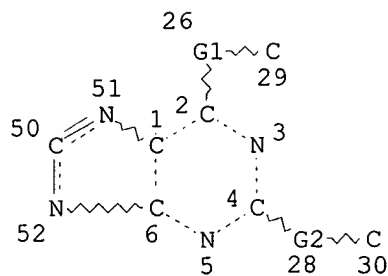
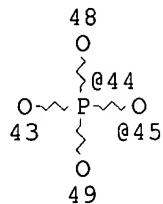
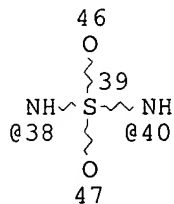
E MALONATO/CN 5
L32 1 S E4
L33 STR
L34 50 S L33
E MALONATE/CN 5
L35 1 S E3
E PYRROLIDINYL/CN 5
E PYRROLIDINE/CN 5
L36 1 S E3
E PIPERIDINE/CN 5
L37 1 S E3
E PIPERIDINYLMETHYLENE/CN 5
E MORPHOLINE/CN 5
L38 1 S E3
L39 STR L14
L40 36 S L39
BATCH SSS FUL L40 GARCIAPT1/B
L41 STR L17
L42 35 S L41
L43 5070 S L41 FUL
SAVE L43 GARCIAPT2/A
L44 STR L20
L45 6 S L44
L46 314 S L44 FUL
SAVE GARCIAPT3/A L46

=> d l43 que stat;d l46 que stat;fil medl,caplus,biosis,embase;s l43 and l46

L41 STR

N~N
@32 @33

N~O
@34 @35



malonato

VAR G1=32-2 33-29/34-2 35-29/38-2 40-29/N/O/S/SE/44-2 45-29/HY/53-2 57-29

VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30/HY/53-4 57-30

NODE ATTRIBUTES:

NSPEC IS RC AT 29

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Page 243

NSPEC IS RC AT 30
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE
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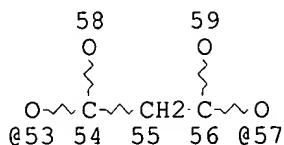
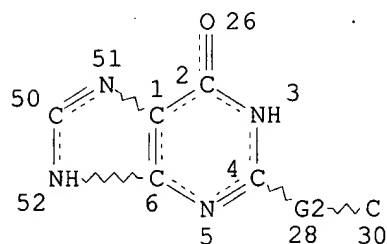
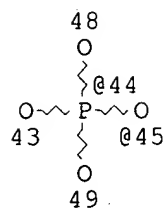
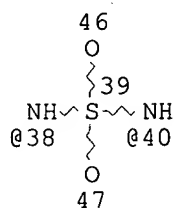
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5070 ANSWERS

L44 STR

N~N
 @32 @33

N~O
 @34 @35



VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30/HY/53-4 57-30
 NODE ATTRIBUTES:
 NSPEC IS RC AT 30
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 33

STEREO ATTRIBUTES: NONE .
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100.0% PROCESSED 78598 ITERATIONS
 SEARCH TIME: 00.00.16

314 ANSWERS

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	299.51	3350.76
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-12.35

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L47 0 FILE MEDLINE
 L48 46 FILE CAPLUS
 L49 0 FILE BIOSIS
 L50 0 FILE EMBASE

TOTAL FOR ALL FILES
 L51 46 L43 AND L46

=> s l51(l)(mixt? or cook p?/au or combinator?)

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'L47(L)(MIXT?)'
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 FIELD CODE - 'AND' OPERATOR ASSUMED 'L48(L)(MIXT?)'
 L53 6 FILE CAPLUS
 PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'L49(L)(MIXT?)'
 L54 0 FILE BIOSIS
 PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
 FIELD CODE - 'AND' OPERATOR ASSUMED 'L50(L)(MIXT?)'
 L55 0 FILE EMBASE

TOTAL FOR ALL FILES
 L56 6 L51(L)(MIXT? OR COOK P?/AU OR COMBINATOR?)

=> d 1-6 cbib abs hitstr

L56 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2001 ACS
 2000:384565 Document No. 133:28236 Methods and compositions for performing
 an array of chemical reactions on a support surface. Zebala, John A.
 (Syntrix Biochip, Inc., USA). PCT Int. Appl. WO 2000033084 A2 20000608
 Prepared by M. Hale 308-4258 Page 245

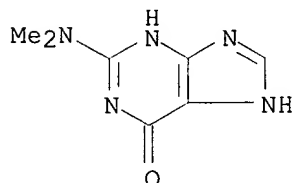
157 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-US28021 19991123. PRIORITY: US 1998-PV110527 19981201; US 1999-326479 19990604.

AB Compns. and methods are provided for performing regionally selective solid-phase chem. synthesis of org. compds. Such methods may employ solvent-resistant photoresist compns. to prep. arrays of org. compds., such as ligands, for use within a variety of diagnostic and drug discovery assays. Ligand-arrays may comprise, for example, nucleobase polymers that are resistant to degradative enzymes. DNA probes and enalaprilat analogs were synthesized on glass slides using a photoresist method and used in hybridization assays and ACE inhibitory activity screening.

IT **1445-15-4 10030-78-1 20758-33-2**
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (array of nucleobase polymers contg.; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

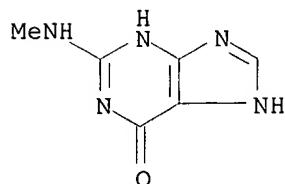
RN 1445-15-4 CAPLUS

CN 6H-Purin-6-one, 2-(dimethylamino)-1,7-dihydro- (9CI) (CA INDEX NAME)



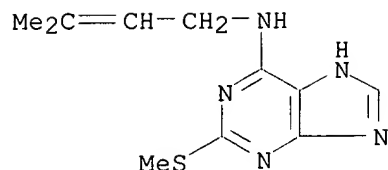
RN 10030-78-1 CAPLUS

CN 6H-Purin-6-one, 1,7-dihydro-2-(methylamino)- (9CI) (CA INDEX NAME)



RN 20758-33-2 CAPLUS

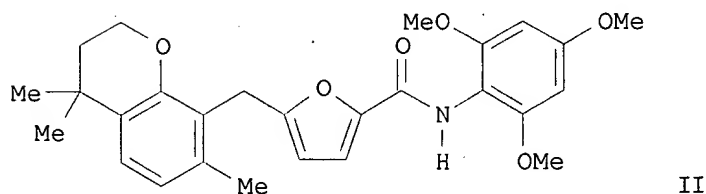
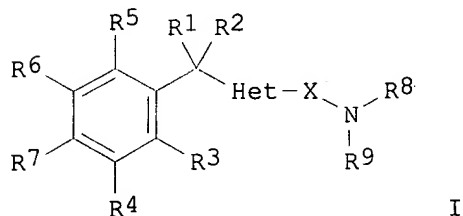
CN 1H-Purin-6-amine, N-(3-methyl-2-butenyl)-2-(methylthio)- (9CI) (CA INDEX NAME)



L56 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2001 ACS

2000:241135 Document No. 132:279106 Non-peptide GnRH agents, methods and intermediates for their preparation. Anderson, Mark Brian; Vazir, Haresh N.; Luthin, David Robert; Paderes, Genevieve Deguzman; Pathak, Ved P.; Christie, Lance Christopher; Hong, Yufeng; Tompkins, Eileen Valenzuela; Li, Haitao; Faust, James (Agouron Pharmaceuticals, Inc., USA; et al.). PCT Int. Appl. WO 2000020358 A2 20000413, 444 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-US18790 19990820. PRIORITY: US 1998-97520 19980820.

GI



AB Non-peptide GnRH agents capable of inhibiting the effect of gonadotropin-releasing hormone are described. The compds. and their pharmaceutically acceptable salts, multimers, prodrugs, and active metabolites are suitable for treating mammalian reproductive disorders and

Prepared by M. Hale 308-4258 Page 247

steroid hormone-dependent tumors as well as for regulating fertility, where suppression of gonadotropin release is indicated. The compds. include those of formula I [X = C:O, C:S, S:O, or SO₂; Het = 5-membered NOS-heterocycle; R₁, R₂ = H, alkyl; R₃-R₇ = H, halo, (un)substituted alkyl, aryl, heteroaryl, CH₂OR, OR, CO₂R; R = alkyl, aryl, etc.; adjacent rings positions such as R₆R₇ may form (un)substituted 5- or 6-membered ring with up to 4 heteroatoms; R₈ = lipophilic moiety such as alkyl,

aryl, CH₂OR, OR, etc.; R₉ = H, (un)substituted alkyl]. Methods and intermediates for synthesizing the compds. are also described. For instance, 4,4,7-trimethylchroman (prepn. given) was alkylated in the 6- and 8-positions using Et 5-(chloromethyl)-2-furoate (46% total yield),

and the resulting esters were hydrolyzed to a **mixt.** of acids. This unsepd. **mixt.** was treated with SOCl₂ and amidated with 2,4,6-trimethoxyphenylamine-HCl to give the invention compd. II and its chroman-6-position isomer, which were sepd. by HPLC. Several compds. exhibited high affinity (<100 nM) at human GnRH receptors. The compds. antagonized GnRH-stimulated inositol phosphate accumulation in cells with recombinant human GnRH receptors, and an example compd. reduced plasma LH levels in castrated male rats. Various biol. data for several hundred compds. are given.

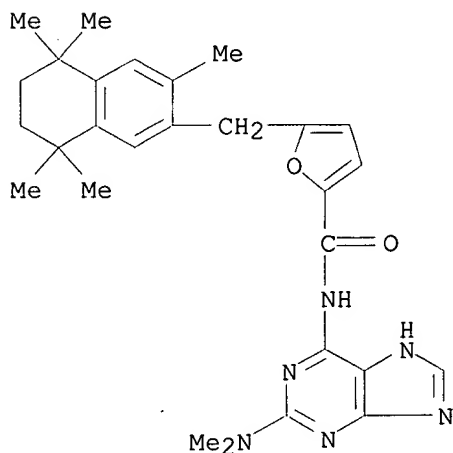
IT 263851-39-4P 263857-23-4P

RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(target compd.; prepn. of non-peptide GnRH agents for regulating gonadotropin secretion)

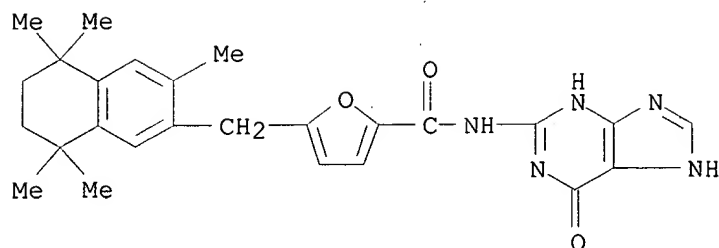
RN 263851-39-4 CAPLUS

CN 2-Furancarboxamide, N-[2-(dimethylamino)-1H-purin-6-yl]-5-[(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)methyl]- (9CI) (CA INDEX NAME)



RN 263857-23-4 CAPLUS

CN 2-Furancarboxamide, N-(6,7-dihydro-6-oxo-1H-purin-2-yl)-5-[(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)methyl]- (9CI) (CA INDEX NAME)



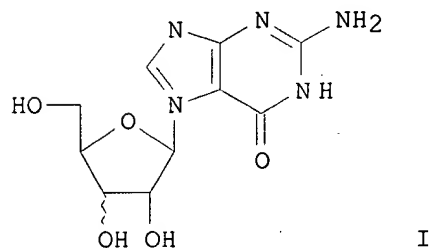
L56 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2001 ACS

1996:744343 Document No. 126:89695 Nucleic Acid Related Compounds. 93. A
Solution for the Historic Problem of Regioselective Sugar-Base Coupling
To

Produce 9-Glycosylguanines or 7-Glycosylguanines. Robins, Morris J.;
Zou,

Ruiming; Guo, Zhiqiang; Wnuk, Stanislaw F. (Department of Chemistry and
Biochemistry, Brigham Young University, Provo, UT, 84602-5700, USA). J.
Org. Chem., 61(26), 9207-9212 (English) 1996. CODEN: JOCEAH. ISSN:
0022-3263. OTHER SOURCES: CASREACT 126:89695. Publisher: American
Chemical Society.

GI



AB Per(trimethylsilyl)-2-N-acylguanine derivs. and
tetra-O-acylpentofuranoses

were coupled [tin(IV) chloride or titanium(IV) chloride catalysis] to
give

predominant formation of 7-glycosylguanines. With TiCl_4 , a org./aq.
partitioning allowed isolation of 7-glycosylguanines from the 7/9 isomer
mixts. Per(trimethylsilyl)-2-N-acyl-6-O-
(diphenylcarbamoyl)guanine derivs. and tetra-O-acylpentofuranoses
underwent regioselective coupling (trimethylsilyl
trifluoromethanesulfonate catalysis) to give 9-glycosylguanines. The
6-O-(diphenylcarbamoyl)peracyl-9-.beta.-D-ribofuranosyl isomer was shown
to be both the kinetic and thermodyn. coupling product. Deprotection of
all of the peracyl coupling products was effected under mild conditions

to

give good to high yields of guanine nucleoside analogs. These methodologies provide solns. for the regioselective prepn. of 7- and 9-glycosylguanine nucleosides, e.g. I.

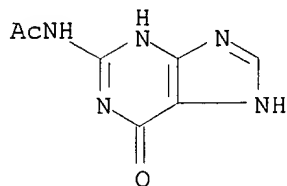
IT 19962-37-9 21047-89-2

RL: RCT (Reactant)

(regioselective sugar-base coupling with nucleobases in prepn. of glycosylguanine nucleosides)

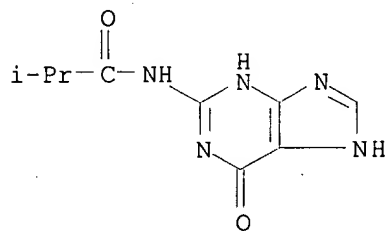
RN 19962-37-9 CAPLUS

CN Acetamide, N-(6,7-dihydro-6-oxo-1H-purin-2-yl)- (9CI) (CA INDEX NAME)



RN 21047-89-2 CAPLUS

CN Propanamide, N-(6,7-dihydro-6-oxo-1H-purin-2-yl)-2-methyl- (9CI) (CA INDEX NAME)



IT 112233-74-6P 112233-75-7P 112233-76-8P

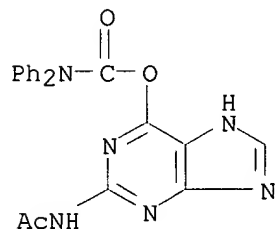
112233-77-9P 112233-78-0P 185610-53-1P

185610-60-0P 185610-62-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(regioselective sugar-base coupling with nucleobases in prepn. of glycosylguanine nucleosides)

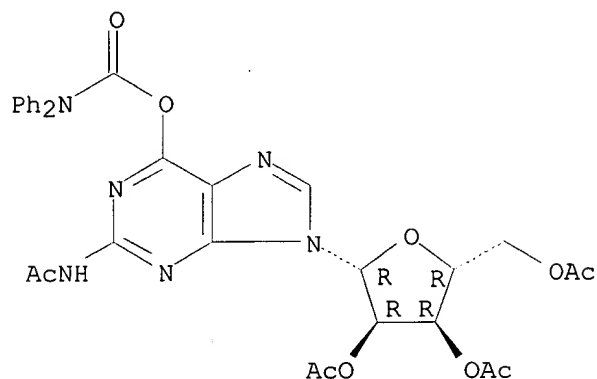
RN 112233-74-6 CAPLUS

CN Carbamic acid, diphenyl-, 2-(acetylamino)-1H-purin-6-yl ester (9CI) (CA INDEX NAME)



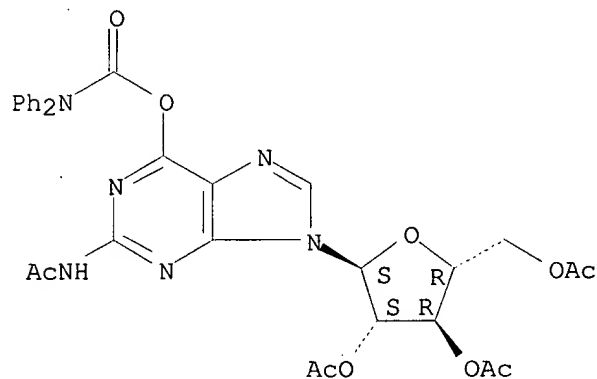
RN 112233-75-7 CAPLUS
 CN Guanosine, N-acetyl-, 2',3',5'-triacetate 6-(diphenylcarbamate) (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



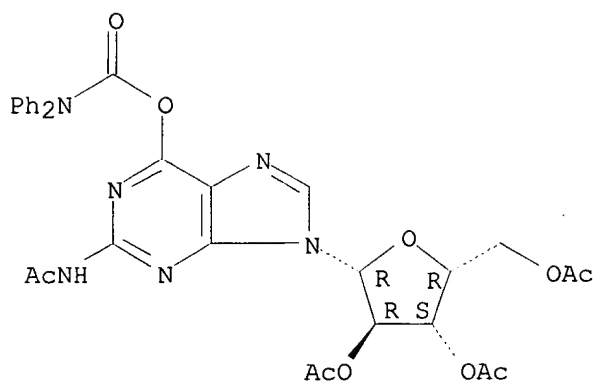
RN 112233-76-8 CAPLUS
 CN Carbamic acid, diphenyl-,
 2-(acetylamino)-9-(2,3,5-tri-O-acetyl-.alpha.-D-
 arabinofuranosyl)-9H-purin-6-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

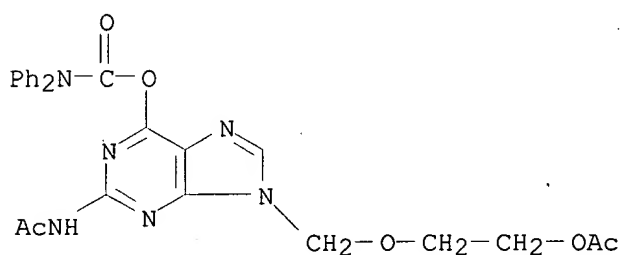


RN 112233-77-9 CAPLUS
 CN Carbamic acid, diphenyl-, 2-(acetylamino)-9-(2,3,5-tri-O-acetyl-.beta.-D-
 xylofuranosyl)-9H-purin-6-yl ester (9CI) (CA INDEX NAME)

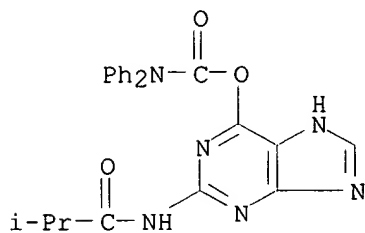
Absolute stereochemistry.



RN 112233-78-0 CAPLUS
 CN Carbamic acid, diphenyl-,
 2-(acetylamino)-9-[[2-(acetyloxy)ethoxy]methyl]-
 9H-purin-6-yl ester (9CI) (CA INDEX NAME)

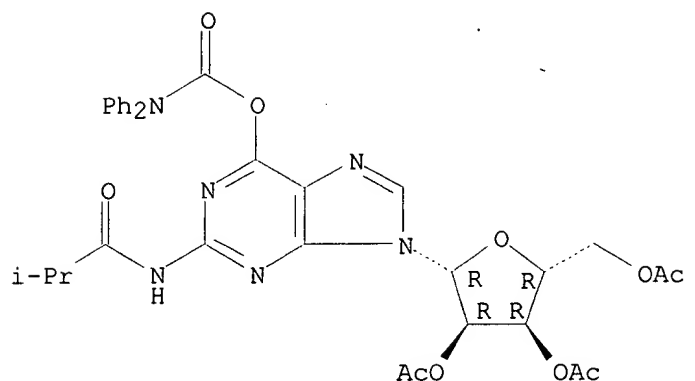


RN 185610-53-1 CAPLUS
 CN Carbamic acid, diphenyl-, 2-[(2-methyl-1-oxopropyl)amino]-1H-purin-6-yl
 ester (9CI) (CA INDEX NAME)



RN 185610-60-0 CAPLUS
 CN Guanosine, N-(2-methyl-1-oxopropyl)-, 2',3',5'-triacetate
 6-(diphenylcarbamate) (9CI) (CA INDEX NAME)

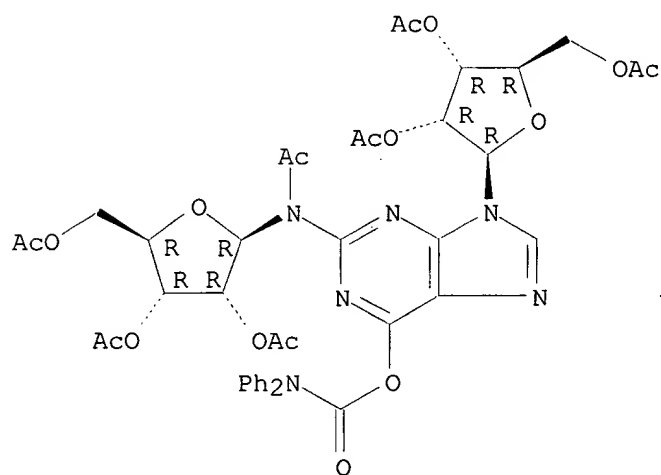
Absolute stereochemistry.



RN 185610-62-2 CAPLUS

CN Guanosine, N-acetyl-N-(2,3,5-tri-O-acetyl-.beta.-D-ribofuranosyl)-, 2',3',5'-triacetate 6-(diphenylcarbamate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

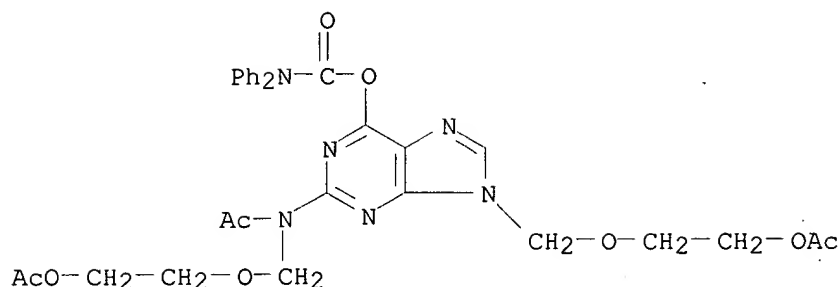


IT 185610-54-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(regioselective sugar-base coupling with nucleobases in prepn. of
glycosylguanine nucleosides)

RN 185610-54-2 CAPLUS

CN Carbamic acid, diphenyl-, 2-[acetyl[[2-(acetyloxy)ethoxy]methyl]amino]-9-
[[2-(acetyloxy)ethoxy]methyl]-9H-purin-6-yl ester (9CI) (CA INDEX NAME)



L56 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2001 ACS

1995:994426 Document No. 124:87803 Preparation of substituted N-ethylglycine

derivatives for the preparation of peptide nucleic acids and peptide nucleic acid/deoxyribonucleic acid hybrids.. Breipohl, Gerhard; Uhlmann, Eugen; Knolle, Jochen (Hoechst A.-G., Germany). Eur. Pat. Appl. EP

672661

A1 19950920, 31 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1995-103333 19950308. PRIORITY: DE 1994-4408534

19940314.

AB PGXCH₂CH₂N(COYB)CH₂CO₂H [PG = urethane- or trityl-type protecting group labile to weak acid; X = NH, O, S; Y = CH₂, NH, O; B = (protected) nucleoside (replacement) base], were prepd. Thus, N-[(4-methoxyphenyl)diphenylmethyl]aminoethylglycine Me ester (prepn. given) in DMF was treated sequentially with 3,4-dihydro-4-oxo-1,2,3-benzotriazine, 4-ethylmorpholine, N⁴-benzoyl-N¹-carboxymethylcytosine in DMF, and with DCC; the mixt. was stirred 20 h at room temp. to give the coupling product, which was sapond. with aq. NaOH/dioxane to give N-[(4-methoxyphenyl)diphenylmethyl]aminoethyl-N-[[1-(N⁴-benzoyl)cytosyl]acetyl]glycine.

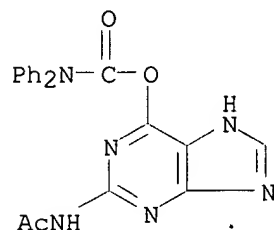
IT 112233-74-6

RL: RCT (Reactant)

(prepn. of substituted N-ethylglycine derivs. for the prepn. of peptide nucleic acids and peptide nucleic acid/DNA hybrids)

RN 112233-74-6 CAPLUS

CN Carbamic acid, diphenyl-, 2-(acetylamino)-1H-purin-6-yl ester (9CI) (CA INDEX NAME)



IT 21047-89-2P 172405-24-2P 172405-25-3P

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172405-26-4P

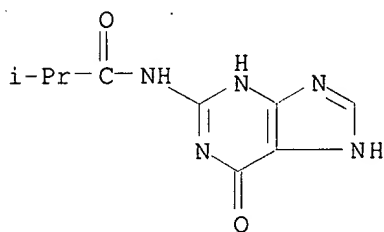
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of substituted N-ethylglycine derivs. for the prepn. of

peptide

nucleic acids and peptide nucleic acid/DNA hybrids)

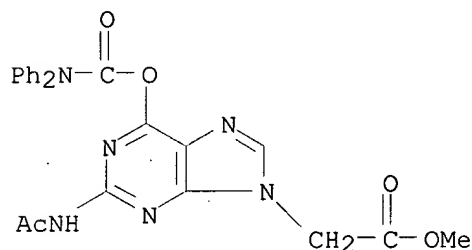
RN 21047-89-2 CAPLUS

CN Propanamide, N-(6,7-dihydro-6-oxo-1H-purin-2-yl)-2-methyl- (9CI) (CA
INDEX NAME)



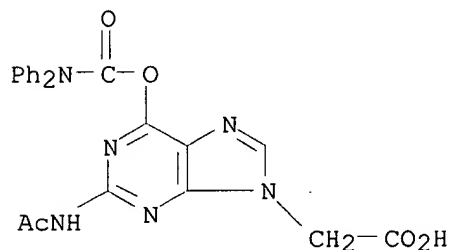
RN 172405-24-2 CAPLUS

CN 9H-Purine-9-acetic acid,
2-(acetamino)-6-[[[(diphenylamino)carbonyl]oxy]-
methyl ester (9CI) (CA INDEX NAME)



RN 172405-25-3 CAPLUS

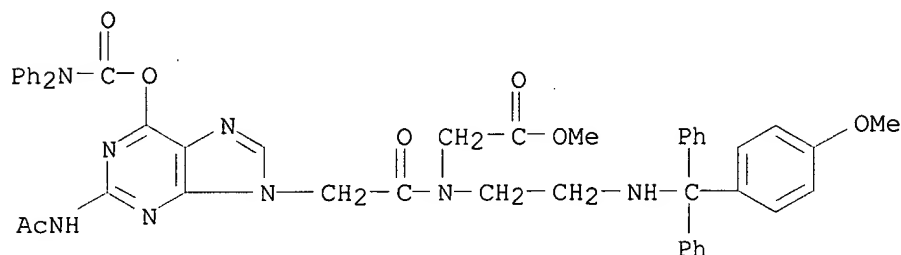
CN 9H-Purine-9-acetic acid,
2-(acetamino)-6-[[[(diphenylamino)carbonyl]oxy]-
(9CI) (CA INDEX NAME)



RN 172405-26-4 CAPLUS

CN Glycine, N-[[2-(acetamino)-6-[[[(diphenylamino)carbonyl]oxy]-9H-purin-9-
Prepared by M. Hale 308-4258 Page 255

yl]acetyl]-N-[2-[[(4-methoxyphenyl)diphenylmethyl]amino]ethyl]-, methyl ester (9CI) (CA INDEX NAME)



IT 172405-34-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of substituted N-ethylglycine derivs. for the prepn. of peptide

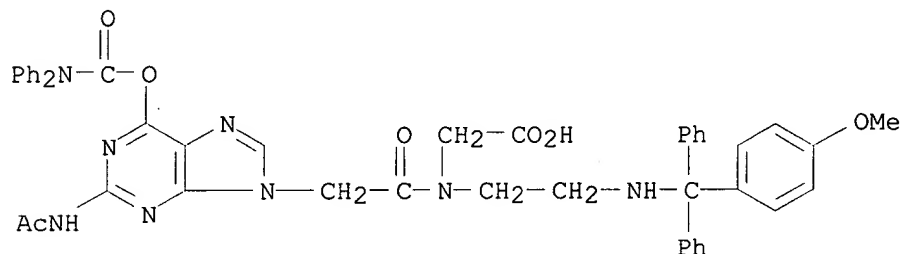
nucleic acids and peptide nucleic acid/DNA hybrids)

RN 172405-34-4 CAPLUS

CN Glycine, N-[[2-(acetyl-amino)-6-[[(diphenylamino)carbonyl]oxy]-9H-purin-9-yl]acetyl]-N-[2-[[(4-methoxyphenyl)diphenylmethyl]amino]ethyl]- (9CI)

(CA

INDEX NAME)



L56 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2001 ACS

1975:497209 Document No. 83:97209 New synthesis of disubstituted 8-aminopurine derivatives. Yoneda, Fumio; Higuchi, Masatsugu; Hayakawa, Akio (Fac. Pharm. Sci., Kumamoto Univ., Kumamoto, Japan). Synthesis (4), 264-5 (English) 1975. CODEN: SYNTBF.

GI For diagram(s), see printed CA Issue.

AB Aminopurines I (X = H₂, R = Me, Ph, MeS, EtS) were prepd. in 80-95% yield by treating nitrosopyrimidines II with excess Me₂NCH(OEt)₂ (III) and then dilg. the reaction **mixt.** with H₂O. When the reaction **mixt.** was dild. with ether (methyleneamino)purines I (X = Me₂NCH; R = Me, Ph, MeS, EtS) were obtained in 69-84% yield. Similarly treating nitrosopyrimidines IV (R = MeS, EtS) with excess III gave 40% and 45% oxopurines V (R = MeS, EtS), resp.

IT 43005-36-3P 56472-00-5P 56472-01-6P 56472-02-7P

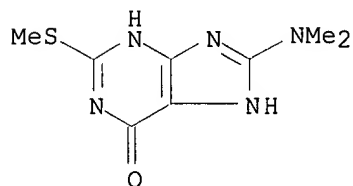
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

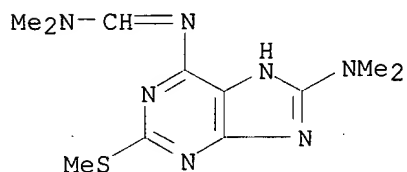
Prepared by M. Hale 308-4258

Page 256

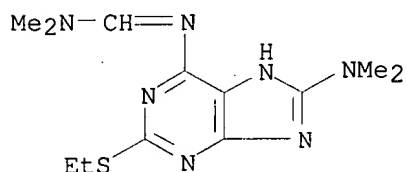
RN 43005-36-3 CAPLUS
 CN 6H-Purin-6-one, 8-(dimethylamino)-1,7-dihydro-2-(methylthio)- (9CI) (CA INDEX NAME)



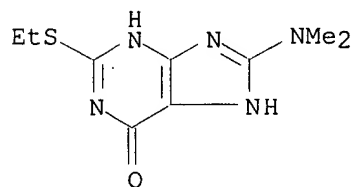
RN 56472-00-5 CAPLUS
 CN Methanimidamide, N'-[8-(dimethylamino)-2-(methylthio)-1H-purin-6-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 56472-01-6 CAPLUS
 CN Methanimidamide, N'-[8-(dimethylamino)-2-(ethylthio)-1H-purin-6-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 56472-02-7 CAPLUS
 CN 6H-Purin-6-one, 8-(dimethylamino)-2-(ethylthio)-1,7-dihydro- (9CI) (CA INDEX NAME)



1970:90522 Document No. 72:90522 Polythiocyanatopurines. Saneyoshi, Mineo (Seikagaku Kogyo Co., Ltd.). Japan. JP 45002179 B4 19700124 Showa, 2 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 19650921.

AB Reaction of a di- or trimercapto-substituted-purine with a cyanogen halide

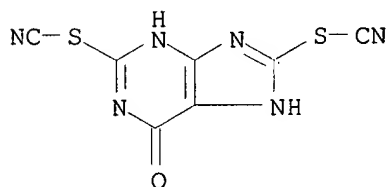
is described. In an example, 2.12 g BrCN in EtOH is dropped into a cold (0.degree.) **mixt.** of 1.88 g 2,6-dimercapto-9-methylpurine and 100 ml 0.2N NaOH, the **mixt.** stirred at 0-5.degree. 1 hr, stirred 1 hr more with 2 ml N HCl, filtered, and the mass washed with cold H2O and EtOH to give 1.96 g 2,6-dithiocyanato-9-methylpurine, m. 240.degree. (aq. EtOH). Similarly prepd. are the following compds.: 2,8-dithiocyanato-6-hydroxypurine, m. 240.degree., 2,6,8-trithiocyanato-purine, m. 240.degree., and 6,8-dithiocyanatopurine, m. 240.degree..

IT **6220-39-9P 26821-00-1P 26821-02-3P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

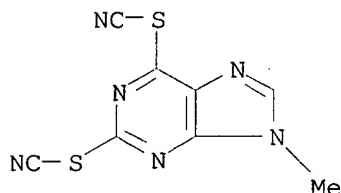
RN 6220-39-9 CAPLUS

CN Thiocyanic acid, 6-hydroxypurine-2,8-diyl ester (7CI, 8CI) (CA INDEX NAME)



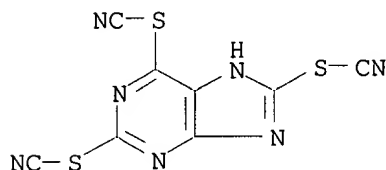
RN 26821-00-1 CAPLUS

CN Thiocyanic acid, 9-methyl-9H-purine-2,6-diyl ester (8CI) (CA INDEX NAME)



RN 26821-02-3 CAPLUS

CN Thiocyanic acid, purine-2,6,8-triyl ester (8CI) (CA INDEX NAME)



=> fil casrea

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	355.16	3705.92
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-3.53	-15.88

FILE 'CASREACT' ENTERED AT 14:10:56 ON 06 APR 2001
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FILE CONTENT:1985 - 1 Apr 2001 (VOL 102 ISS 1 - VOL 134 ISS 14)

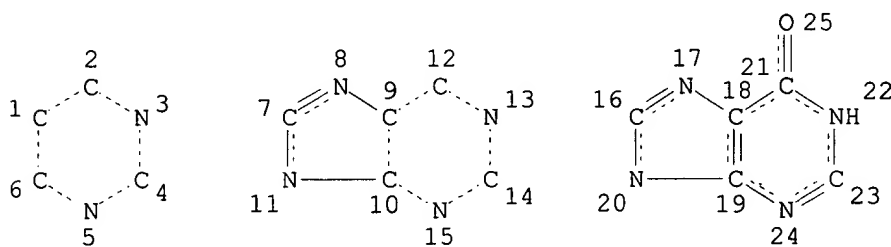
>>> Several important enhancements to CASREACT functional group <<<
>>> searching were introduced. Enter HELP FGA or HELP FGC for more <<<
>>> information. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

Structure search limits have been increased. See HELP SLIMIT for details.

=> d 158 que stat;s 158(1)(mixt? or combinator?)

L1 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE

L58 326 SEA FILE=CASREACT SSS_FUL L1 (3520 REACTIONS)
Prepared by M. Hale 308-4258

100.0% DONE 12117 VERIFIED 3520 HIT RXNS
SEARCH TIME: 00.00.04

326 DOCS

21697 MIXT?
415 COMBINATOR?
L59 1 L58(L) (MIXT? OR COMBINATOR?)

=> d fhit cbibabs

'CBIBABS' IS NOT A VALID FORMAT FOR FILE 'CASREACT'

The following are valid formats:

ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE, Single-step Reactions
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
DALL ----- ALL, delimited (end of each field identified)
IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IND ----- Indexing data
IPC ----- International Patent Classifications
ISTD ----- STD, indented with text labels
OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

MAX ----- Same as ALL
PATS ----- PI, SO
SCAN ----- TI and FCRD (random display, no answer number. SCAN
must be entered on the same line as DISPLAY, e.g.,
D SCAN.)
SSRX ----- Single-Step Reactions (Map, Diagram, and Summary for
all single-step reactions)
STD ----- BIB, IPC, and NCL

CRD ----- Compact Display of All Hit Reactions
CRDREF ----- Compact Reaction Display and SO, PY for Reference
FHIT ----- Reaction Map, Diagram, and Summary for first
hit reaction
FHITCBIB ---- FHIT, AN plus CBIB
FCRD ----- First hit in Compact Reaction Display (CRD) format
FCRDREF ----- First hit in Compact Reaction Display (CRD) format with
CA reference information (SO, PY). (Default)
FPATH ----- PATH, plus Reaction Summary for the "long path"
FSPATH ----- SPATH, plus Reaction Summary for the "short path"
HIT ----- Reaction Map, Reaction Diagram, and Reaction

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Summary for all hit reactions and fields containing hit terms

OCC ----- All hit fields and the number of occurrences of the hit terms in each field. Includes total number of HIT, PATH, SPATH reactions. Labels reactions that have incomplete verifications.

PATH ----- Reaction Map and Reaction Diagram for the "long path". Displays all hit reactions, except those whose steps are totally included within another hit reaction which is displayed

RX ----- Hit Reactions (Map, Diagram, Summary for all hit reactions)

RXG ----- Hit Reaction Graphics (Map and Diagram for all hit reactions)

RXL ----- Hit Reaction Long (Map, Diagram, Summary for all hit reactions)

RXS ----- Hit Reaction Summarizers (Map and Summary for all hit reactions)

SPATH ----- Reaction Map and Reaction Diagram for the "short path". Displays all single step reactions which contain a hit substance. Also displays those multistep reactions that have a hit substance in both the first and last steps of the reaction, except for those hit reactions whose steps are totally included within another hit reaction which is displayed

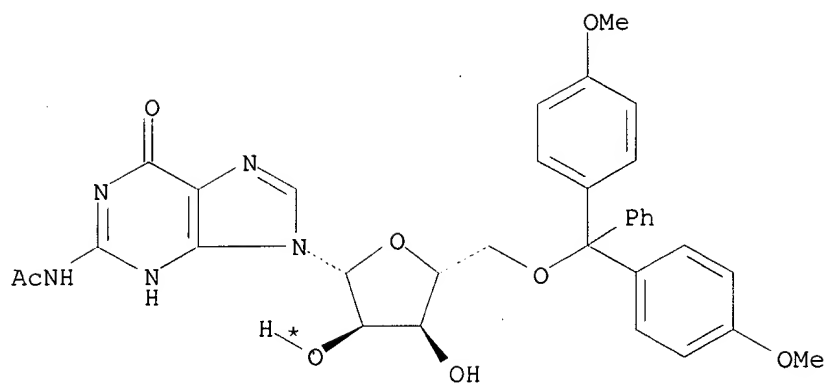
To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of combinations include: D TI; D BIB RX; D TI, AU, FCRD. The information is displayed in the same order as the specification. All of the formats, except CRD, CRDREF, FHIT, PATH, FPATH, SPATH, FSPATH, FCRD, FCRDREF, HIT, RX, RXG, RXS, SCAN, and OCC, may be used with the DISPLAY command to display the record for a specified Accession Number.

ENTER DISPLAY FORMAT (FCRDREF):

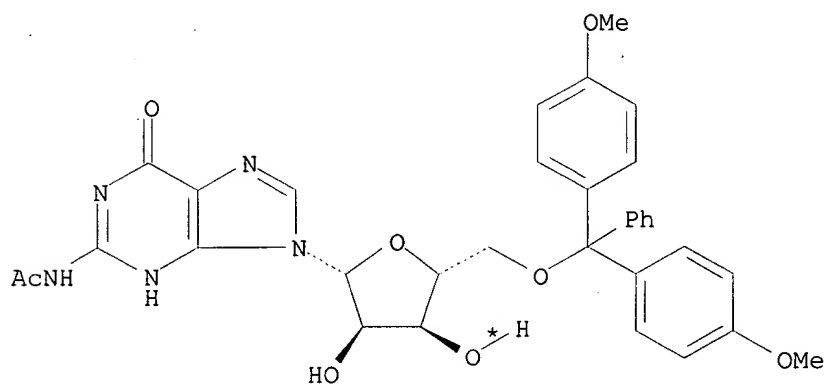
ENTER DISPLAY FORMAT (FCRDREF):fhit cbib abs

L59 ANSWER 1 OF 1 CASREACT COPYRIGHT 2001 ACS

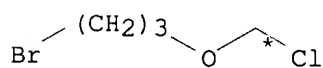
RX(11) OF 12 COMPOSED OF RX(3), RX(7)
 RX(11) 2 K + 2 B + Q ==> U



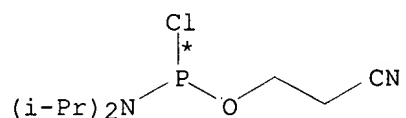
K



K

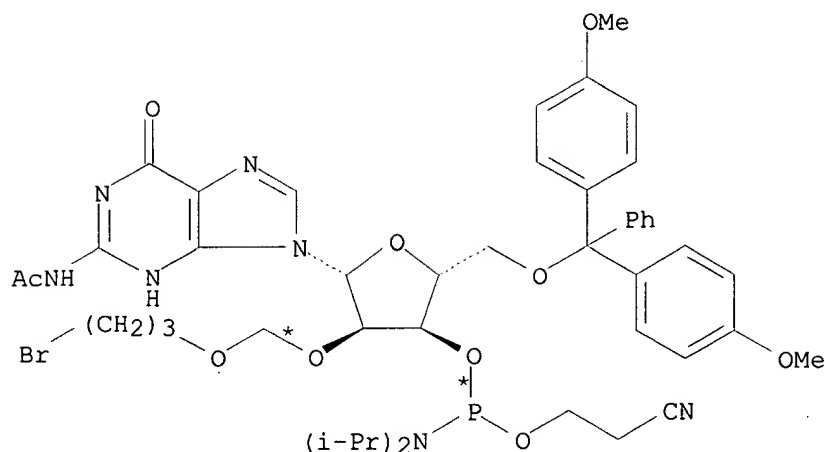


2 B



Q

2
STEPS
→



U
YIELD 83%

RX(3) RCT K 231957-27-0

STAGE(1)

RGT E 683-18-1 Bu₂SnCl₂, F 7087-68-5 EtN(Pr-i)₂
SOL 107-06-2 ClCH₂CH₂Cl

STAGE(2)

RCT B 54314-83-9
PRO L 289891-45-8, M 289891-49-2
NTE regioselective key step

RX(7) RCT L 289891-45-8

STAGE(1)

RGT F 7087-68-5 EtN(Pr-i)₂
SOL 75-09-2 CH₂Cl₂

STAGE(2)

RCT Q 89992-70-1
PRO U 289891-53-8
NTE (1:1 diastereomeric mixt.)

133:208110 Synthesis of 5'-C- and 2'-O-(bromoalkyl)-substituted ribonucleoside

phosphoramidites for the post-synthetic functionalization of oligonucleotides on solid support. Wu, Xiaolin; Pitsch, Stefan (Laboratorium fur Organische Chemie, ETH-Zentrum, Zurich, CH-8092, Switz.). Helv. Chim. Acta, 83(6), 1127-1144 (English) 2000. CODEN: HCACAV. ISSN: 0018-019X. Publisher: Verlag Helvetica Chimica Acta.

AB The prepn. of building blocks for the incorporation of 6'-O-(5-bromopentyl)-substituted .beta.-D-allofuranosylnucleosides and 2'-O-[(3-bromopropoxy)methyl]-substituted ribonucleosides into oligonucleotide sequences is presented. These reactive building blocks can be modified with a variety of soft nucleophiles while the (fully
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protected) sequence is still attached to the solid support. As an example of this strategy, we carried out some preliminary solid-phase substitution and conjugation reactions with DNA sequences contg. a 2'-O-[(3-bromopropoxy)methyl]-substituted ribonucleoside and detd. the pairing properties of duplexes obtained therefrom.

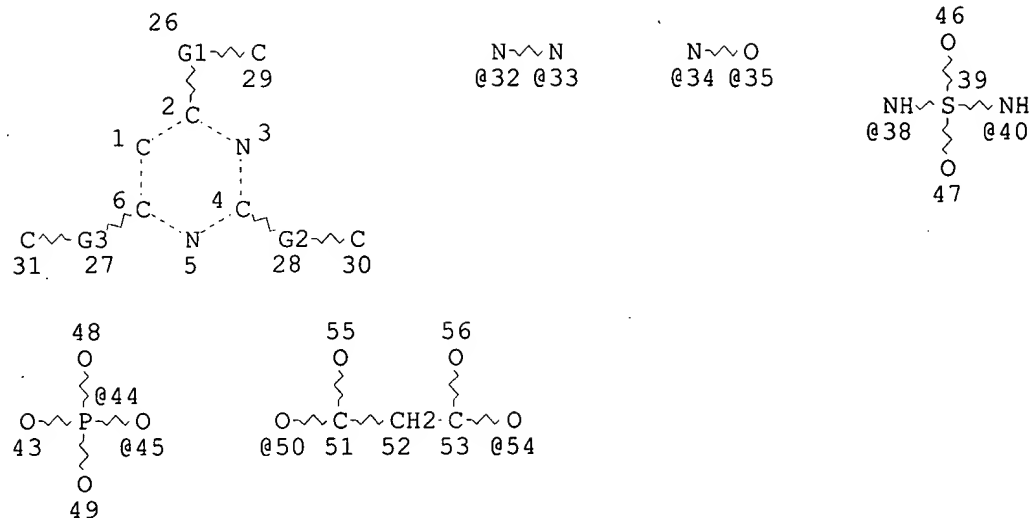
=> log y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	95.69	3801.61
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.56	-16.44

STN INTERNATIONAL LOGOFF AT 14:12:33 ON 06 APR 2001

=> d 12 que stat;s 12 or 12

L1 STR



VAR G1=32-2 33-29/34-2 35-29/38-2 40-29/N/O/S/SE/44-2 45-29/HY/50-2 54-29
VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30/HY/50-4 54-30
VAR G3=32-6 33-31/34-6 35-31/38-6 40-31/44-6 45-31/N/O/S/SE/HY/50-6 54-31

NODE ATTRIBUTES:

NSPEC IS RC AT 29

NSPEC IS RC AT 30

NSPEC IS RC AT 31

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 33

STEREO ATTRIBUTES: NONE

L2 18919 SEA FILE=REGISTRY SSS FUL L1

9.2% PROCESSED 472964 ITERATIONS
SEARCH TIME: 00.00.44

18919 ANSWERS

L3 18919 L2 OR L2

=> d 9000 18000 reg

9000 RN 147929-45-1 REGISTRY
18000 RN 77926-16-0 REGISTRY

=> s 13 range=(147929-45-1,)

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Page 1

L4 9000 L2 OR L2

=> s 13 range=(77926-6-0,147929-45-1)

L5 9803 L2 OR L2

=> del 15 y;s 13 range=(77926-16-0,147929-45-1)

L5 9001 L2 OR L2

=> s 13 range=(,77926-16-0)

L6 920 L2 OR L2

=> act garciapt2/a

L7 STR

L8 5070 SEA FILE=REGISTRY SSS FUL L7

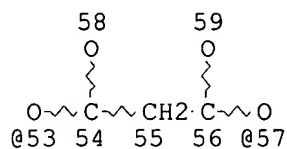
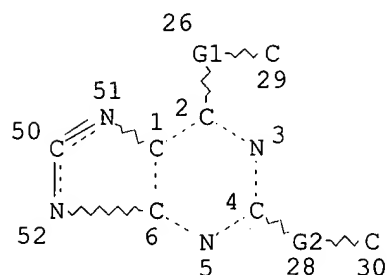
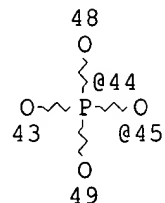
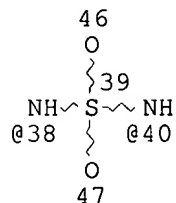
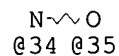
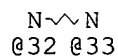
=> act garciapt3/a

L9 STR

L10 314 SEA FILE=REGISTRY SSS FUL L9

=> d 18 que stat;d 110 que stat;fil medl,caplus,biosis,embase;s 110 and 18

L7 STR



VAR G1=32-2 33-29/34-2 35-29/38-2 40-29/N/O/S/SE/44-2 45-29/HY/53-2 57-29

VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30/HY/53-4 57-30

NODE ATTRIBUTES:

NSPEC IS RC AT 29

NSPEC IS RC AT 30

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Page 2

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE
L8 5070 SEA FILE=REGISTRY SSS FUL L7

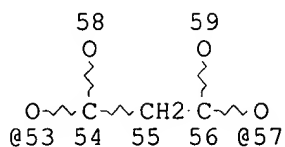
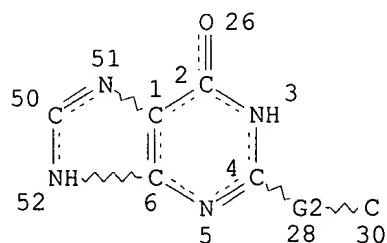
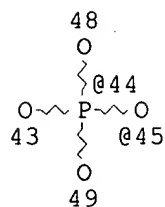
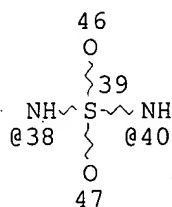
100.0% PROCESSED 139298 ITERATIONS
SEARCH TIME: 00.00.25

5070 ANSWERS

L9 STR

N~N
@32 @33

N~O
@34 @35



VAR G2=32-4 33-30/34-4 35-30/38-4 40-30/N/O/S/SE/44-4 45-30/HY/53-4 57-30
NODE ATTRIBUTES:
NSPEC IS RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 33

STEREO ATTRIBUTES: NONE
L10 314 SEA FILE=REGISTRY SSS FUL L9

100.0% PROCESSED 78598 ITERATIONS
SEARCH TIME: 00.00.16

314 ANSWERS